

TOSHIBA

AM/FM STEREO SYNTHESIZER RECEIVER

RP-2059



SPECIFICATIONS

U.S.A./Canada/Europe/Australia

Frequency Range: FM: 87.5 MHz to 108 MHz
AM: 530 kHz to 1610 kHz (U.S.A./Canada)
AM: 531 kHz to 1602 kHz (Europe/Australia)
Power Supply: DC 3V IEC RO3 ("AAA" cell) x 2

Maximum Output Power:

20 mW + 20 mW (U.S.A./Canada)
15 mW + 15 mW (Europe/Australia)

Dimensions Weight:

62 (W) x 111 (H) x 23 (D) mm
120g (Including batteries)

Others

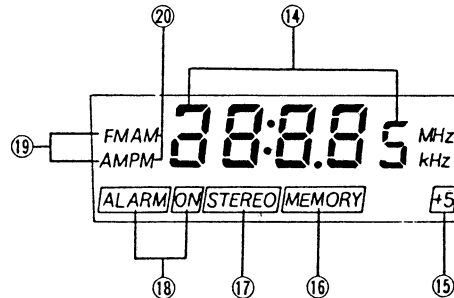
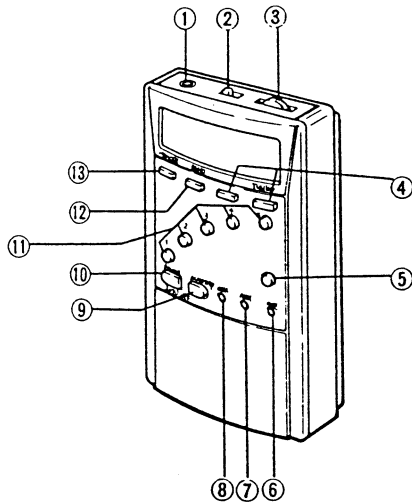
Frequency Range: Case (1)
FM: 87.5 MHz to 108 MHz (50 kHz steps)
AM: 531 kHz to 1602 kHz (9 kHz steps)
Case (2)
FM: 87.5 MHz to 108 MHz (50 kHz steps)
AM: 530 kHz to 1602 kHz (10 kHz steps)
Power Supply: DC 3V IEC RO3 ("AAA" cell) x 2

Maximum Output Power:
Power: 15 mW + 15 mW
Dimensions Weight: 62 (W) x 111 (H) x 23 (D) mm
120g (Including batteries)

Specifications are subject to change without notice.

K-TA, TC, TE, AY, VF

OPERATING CONTROLS



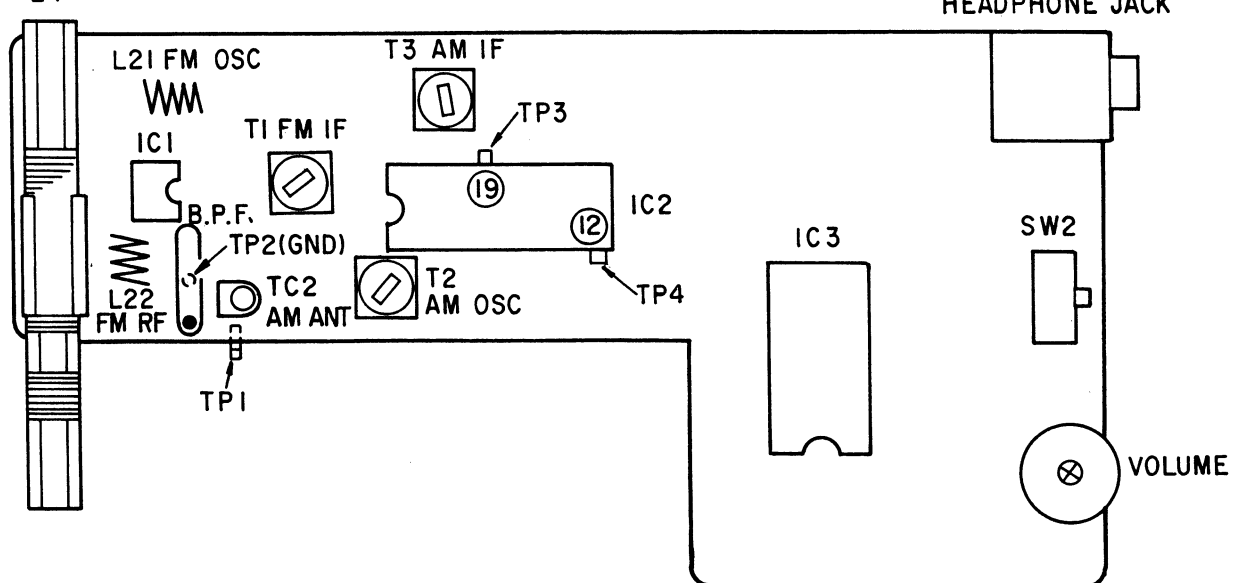
- ① PHONES Jack
- ② DBSS Switch
- ③ VOLUME Control
- ④ TUNING/HOUR, MIN. Button
- ⑤ +5 Button
- ⑥ MODE Button
- ⑦ ALARM Button
- ⑧ CLEAR Button
- ⑨ ALARM STOP Button
- ⑩ POWER/AUTO OFF Button
- ⑪ Preset Button
- ⑫ BAND Button
- ⑬ MEMORY Button
- ⑭ Frequency/Time Indicator
- ⑮ +5 Indicator
- ⑯ MEMORY Indicator
- ⑰ STEREO Indicator
- ⑱ ALARM ON Indicator
- ⑲ Band (FM/AM) Indicator
- ⑳ AM/PM Indicator

ADJUSTMENTS

TEST EQUIPMENT

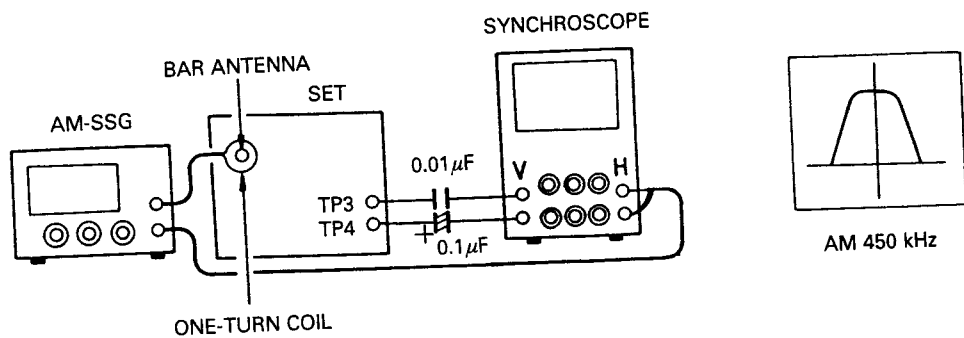
- 1. AM SWEEP GENERATOR (SSG)
- 2. AM SIGNAL GENERATOR (SG)
- 3. LOOP ANTENNA
- 4. SYNCHROSCOPE
- 5. AC VOLTMETER
- 6. ONE TURN COIL
- 7. FM SWEEP GENERATOR (SSG)
- 8. 3-TURN COIL (3 cm)
- 9. FM SIGNAL GENERATOR (SG)
- 10. FM DUMMY ANTENNA

BAR ANTENNA
L1



AM ALIGNMENT CHART
(1) AM IF

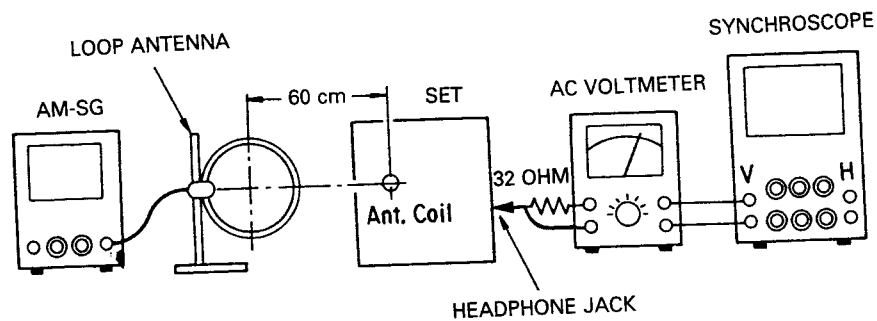
Step	SSG Frequency	Display (LCD)	Adjustment	Remarks
1	450 kHz	Fmin	T3	Adjust IF transformer (T3) until the best single peak is obtained.



(2) AM TRACKING

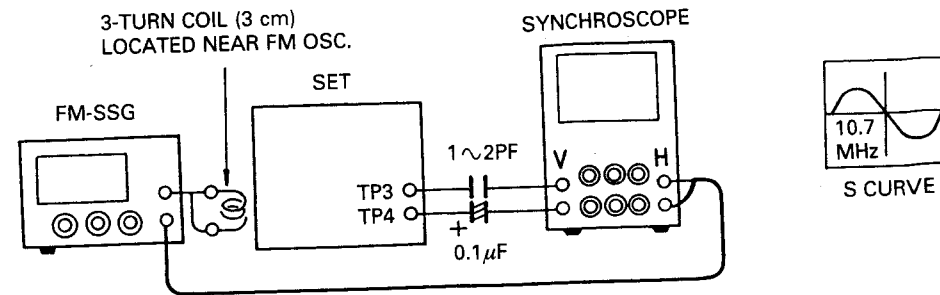
Step	SG Frequency	Display (LCD)	Adjustment	Remarks
1	600 kHz (U.S.A./Canada) 603 kHz (Europe/Australia) 600 kHz/603 kHz (Others)	600 kHz (U.S.A./Canada) 603 kHz (Europe/Australia) 600 kHz/603 kHz (Others)	T2	Adjust for maximum output indicator
2	1400 kHz (U.S.A./Canada) 1404 kHz (Europe/Australia) 1400 kHz/1404 kHz (Others)	1400 kHz (U.S.A./Canada) 1404 kHz (Europe/Australia) 1400 kHz/1404 kHz (Others)	TC2	Adjust for maximum output indicator
3	Repeat steps 1 and 2 as required.			

(SG Modulation Frequency 400 Hz, 30% Mod, 80 ~ 85 dB)



FM ALIGNMENT CHART
(1) FM IF

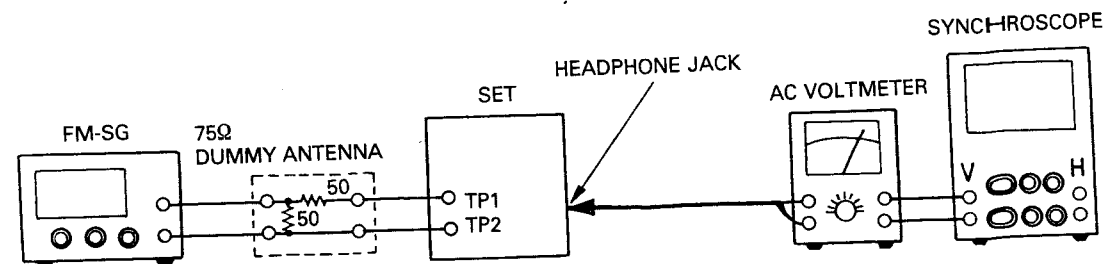
Step	SSG Frequency	Display (LCD)	Adjustment	Remarks
1	10.7 MHz	Fmin	T1	Turn T1 so that the best S curve can be obtained in symmetry.



(2) FM TRACKING

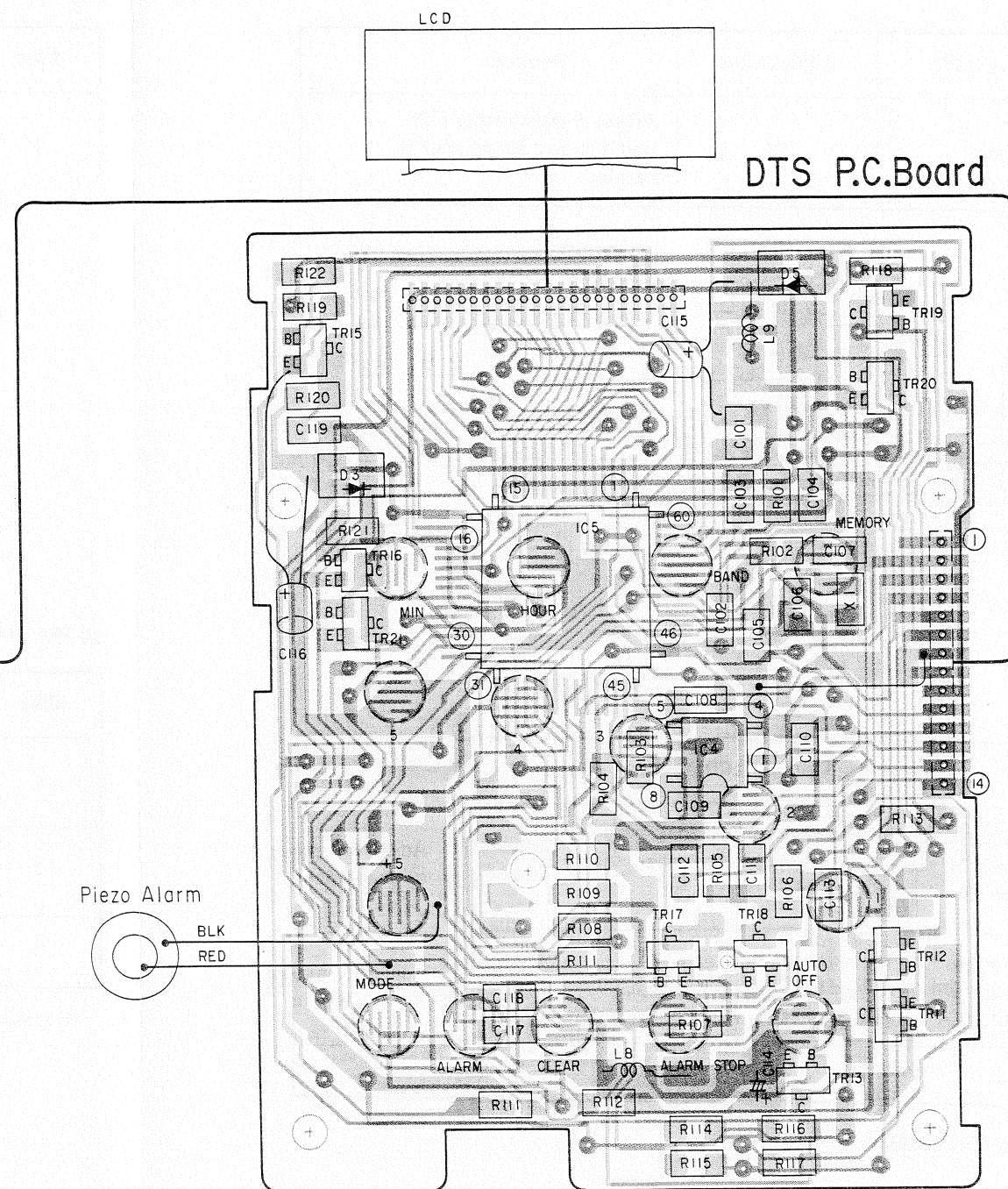
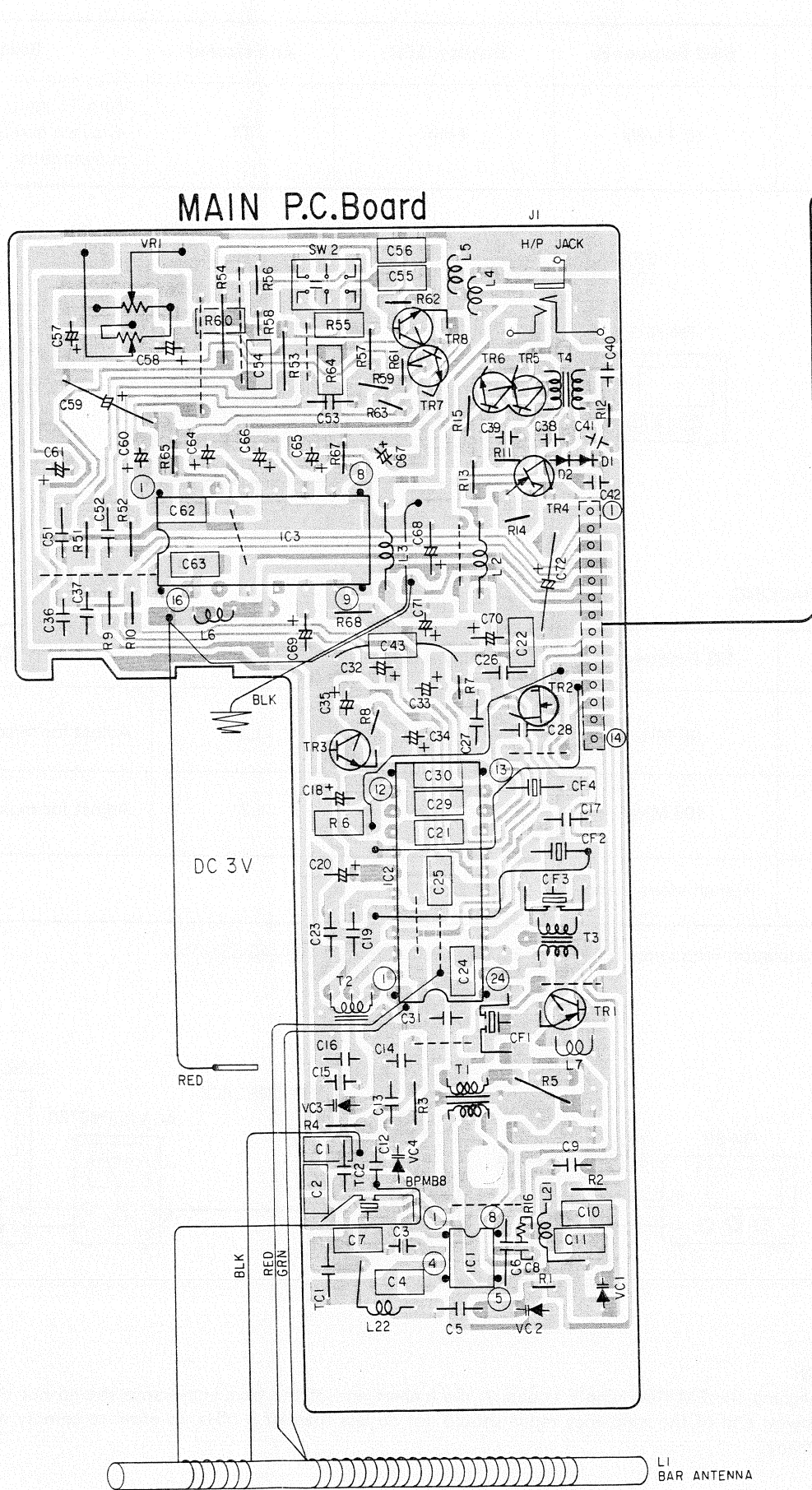
Step	SG Frequency	Display (LCD)	Adjustment	Remarks
1	90 MHz	90 MHz	L22	Adjust for maximum indicator.
2	106 MHz	106 MHz	L21	Adjust for maximum indicator.
3	Repeat steps 1 and 2 as required.			

(SG Modulation Frequency is 1 kHz, ± 22.5 kHz dev. (MONO), 10 ~ 40 dB/ μ V.)



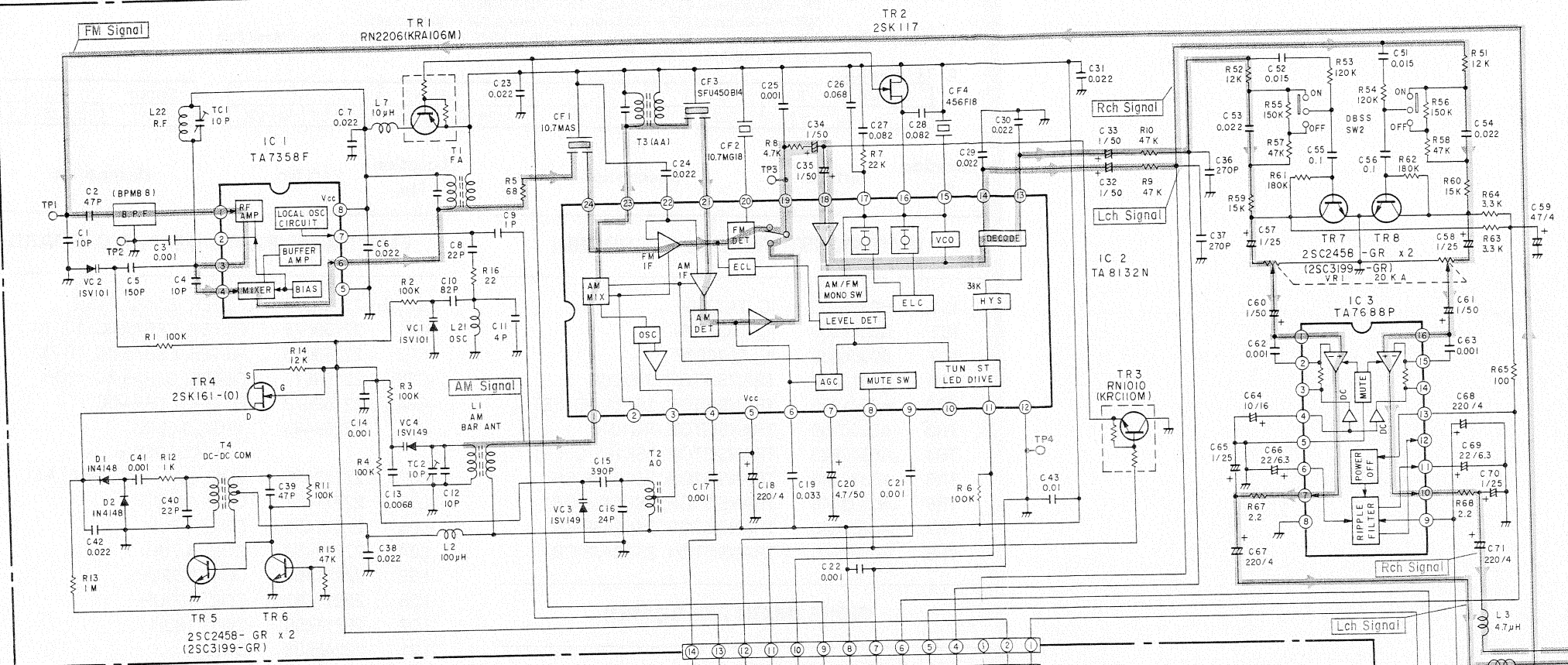
CAUTION:
When realigning the FM Receiving Frequency, the highest end of the frequency range should not be more than 108 MHz and the lowest end of the frequency range should not be less than 87.5 MHz, in order to comply with FTZ regulations in West Germany.

ELECTRICAL PARTS LOCATIONS



SCHEMATIC DIAGRAM

MAIN P.C. Board



IC1 (TA7358F)

1	0.8V
2	1.5V
3	2.5V
4	1.5V
5	GND
6	2.5V
7	2.45V
8	2.5V

IC2 (TA8132N)

	AN	FM
1	2.7V	2.6V
2	0.25V	0.2V
3	2.7V	2.6V
4	2.4V	2.6V
5	2.7V	2.6V
6	2.1V	2.0V
7	0.3V	0.4V
8	0V	0V
9	2.2V	2.6V
10	0V	0V
11	2.2V	2.6V
12	GND	GND
13	1.0V	1.0V
14	1.0V	1.0V
15	2.2V	1.8V
16	0V	0V
17	2.7V	1.75V
18	2.45V	1.75V
19	0.6V	0.6V
20	1.25V	1.1V
21	2.2V	1.7V
22	2.7V	2.6V
23	2.0V	2.4V
24	2.7V	2.6V

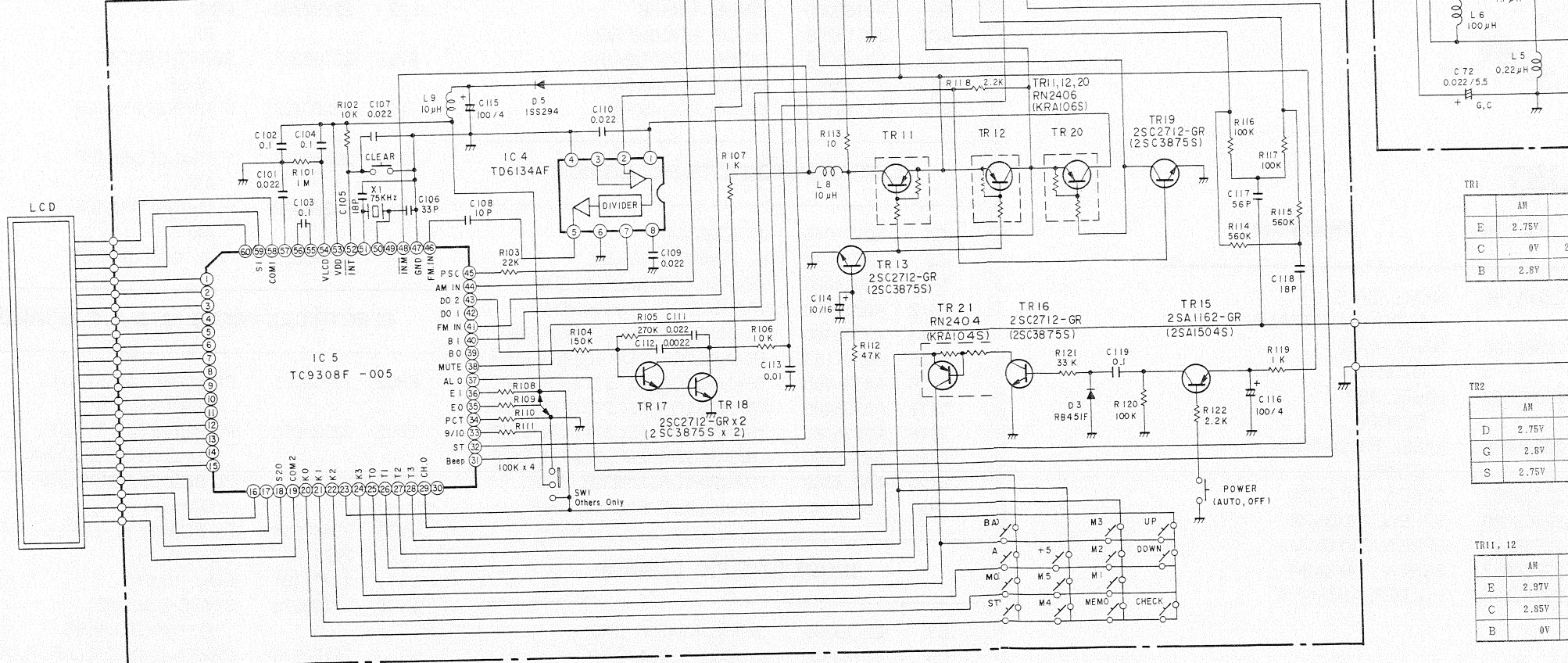
IC3 (TA7688P)

1	1.4V
2	1.4V
3	1.4V
4	1.4V
5	GND
6	2.25V
7	1.4V
8	GND
9	2.95V
10	1.4V
11	2.25V
12	2.35V
13	2.8V
14	1.4V
15	1.4V
16	1.4V

IC4 (TDS134)

1	2.6V
2	1.4V
3	1.4V
4	GND
5	1.5V
6	GND
7	2.2V
8	1.4V

DTS P.C. Board



TR1

	AN	FM
E	2.75V	2.6V
C	0V	2.55V
B	2.8V	0V

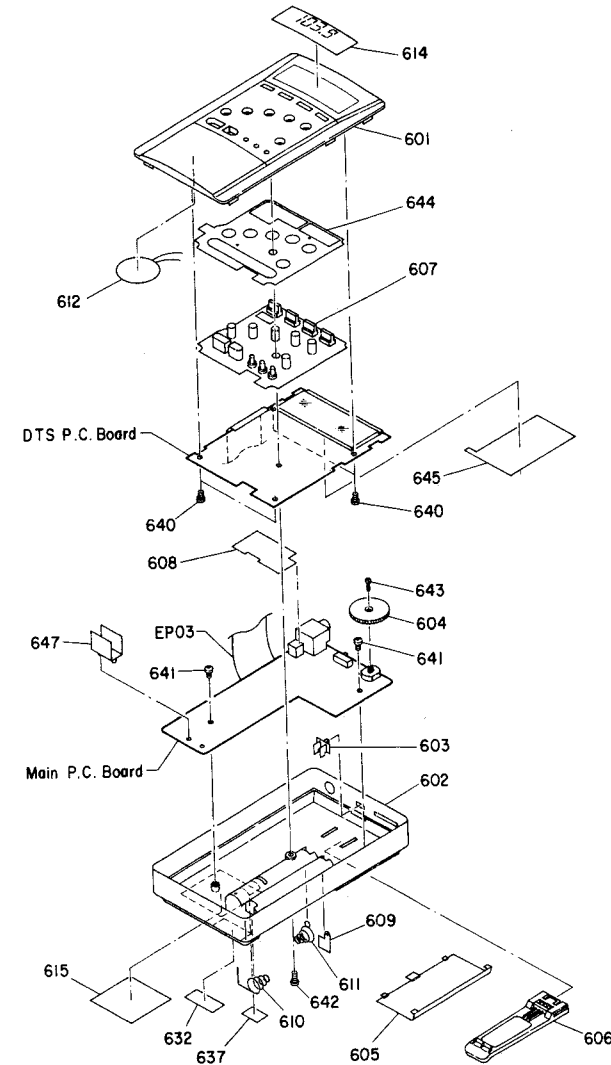
TR2

	AN	FM
D	2.75V	2.6V
G	2.6V	0V
S	2.75V	1.8V

TR11, 12

	AN	FM
E	2.97V	2.97V
C	2.55V	2.8V
B	0V	0V

CABINET EXPLODED VIEW



NOTE: Parts excluded in the parts list are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

CABINET PARTS LIST

Location No.	Part No.	Description	Location No.	Part No.	Description
601	22886078	CABINET, FRONT	615	22868189	NAME PLATE EUROPE/AUSTRALIA
602	22886079	CABINET, BACK	615	22868190	NAME PLATE OTHERS
603	22885220	KNOB DBSS	632	22996068	LABEL, DBP EUROPE
604	22885221	KNOB VOLUME	637	22996085	LABEL, FREQUENCY OTHERS
605	22842198	COVER ASSY, BATTERY	640	22709889	SCREW, 2.0X4MM
606	25875099	CLIP, BELT	641	22709890	SCREW, 2.0X3MM
607	22766531	RUBBER, KEY	642	22709891	SCREW, 2.0X6MM
609	22725315	TERMINAL, BATTERY	643	22709892	SCREW, 1.4X5MM
610	25777942	SPRING, BATTERY	647	22753525	HOLDER, ANTENNA
611	25777943	SPRING, BATTERY			
612	22157045	SPEAKER, PIEZO			
614	22996084	LABEL, POP			
615	22868188	NAME PLATE USA/CANADA			

PARTS LIST

- ABBREVIATIONS
1. CAPACITOR: CD = Ceramic Disk, PF = Plastic Film, BL = Barrier Layer, EL = Electrolytic, MY = Mylar, PP = Polypropylene,
PS = Polystyrene, TT = Tantalum, PE = Polyethylene
MFD = Microfarad, PF = Picofarad, V = Voltage, NP = Non Polarity
2. RESISTOR: CF = Carbon Film, CC = Carbon Composition, OMF = Oxide Metal Film, MF = Metal Film
K = Kilo (1000), M = Mega (1000000)
3. TOLERANCE

Symbol	F	G	J	K	M	N	Z	P
%	±1	±2	±5	±10	±20	±30	-20+80	0+100

Symbol	C	D
pF	±0.25	±0.5

Location No.	Part No.	Description	Location No.	Part No.	Description
IC/TRANSISTOR (MAIN P.C. BOARD)			ELECTRICAL PARTS (MAIN P.C. BOARD)		
IC1	B0325505	IC, TA7358F	BPMB8	22153674	FILTER, BAND-PASS
IC2	B0377800	IC, TA8132N	CF1	22153675	FILTER, CERAMIC, 10.7M
IC3	B0356880	IC, TA7688P	CF2	22153676	FILTER, CERAMIC, 10.7M
TR1	A6012060	TRANSISTOR, RN2206	CF3	22153677	FILTER, CERAMIC, 450B
TR2	A6041820	TRANSISTOR, 2SK117-O, FET	CF4	22153678	FILTER, CERAMIC
TR3	A6000100	TRANSISTOR, RN1010	J1	22198466	JACK, 3.5MM HEADPHONE
TR4	A6042620	TRANSISTOR, 2SK161-O, FET	L01	22243195	COIL, BAR ANTENNA, AM
TR5	A6332440	TRANSISTOR, 2SC2458-GR	L02	22211457	COIL, 100UH
TR6	A6332440	TRANSISTOR, 2SC2458-GR	L03	22211459	COIL, 4.7UH
TR7	A6332440	TRANSISTOR, 2SC2458-GR	L04	22211459	COIL, 4.7UH
TR8	A6332440	TRANSISTOR, 2SC2458-GR	L05	22211460	COIL, 0.22UH
DIODE (MAIN P.C. BOARD)			L06	22211457	COIL, 100UH
D1	A7180000	DIODE, 1N4148	L07	22211458	COIL, 10UH
D2	A7180000	DIODE, 1N4148	L21	22245583	COIL OSCILLATOR
VC1	22119206	DIODE, 1SV101(PAIR)	L22	22292260	COIL RF
VC2	22119206	DIODE, 1SV101(PAIR)	SW2	22108362	SWITCH, SLIDE DBSS
VC3	22119207	DIODE, 1SV149(PAIR)	T1	22266426	IF TRANSFORMER FM
VC4	22119207	DIODE, 1SV149(PAIR)	T2	22266427	IF TRANSFORMER AM
IC/TRANSISTOR (DTS P.C. BOARD)			T3	22266428	IF TRANSFORMER AM
IC4	B0271045	IC, TD6134AF	T4	22285388	COIL, CONVERTOR
IC5	22127032	IC, TC9308AF-005-BR	ELECTRICAL PARTS (DTS P.C. BOARD)		
TR11	A6014060	TRANSISTOR, RN2406, CHIP	EP02	22130907	PC BOARD ASSY, DTS USA/CANADA
TR12	A6014060	TRANSISTOR, RN2406, CHIP	EP02	22130910	PC BOARD ASSY, DTS EUROPE/AUSTRALIA
TR13	A6335480	TRANSISTOR, 2SC2712-GR, CHIP	EP02	22130911	PC BOARD ASSY, DTS OTHERS
TR15	A6541140	TRANSISTOR, 2SA1162-GR, CHIP	EP03	22188054	PC BOARD, FLEXIBLE
TR16	A6335480	TRANSISTOR, 2SC2712-GR, CHIP	L8	22211461	COIL, 10UH
TR17	A6335480	TRANSISTOR, 2SC2712-GR, CHIP	L9	22211461	COIL, 10UH
TR18	A6335480	TRANSISTOR, 2SC2712-GR, CHIP	SW1	22108375	SWITCH, SLIDE 9K/10K, OTHERS
TR19	A6335480	TRANSISTOR, 2SC2712-GR, CHIP	X1	22153573	CRYSTAL, OSCILLATOR, 75KHZ
TR20	A6014060	TRANSISTOR, RN2406, CHIP			
TR21	A6014040	TRANSISTOR, RN2404, CHIP			
DIODE (DTS P.C. BOARD)					
D3	22119399	DIODE, RB451F, CHIP			
D5	A7153900	DIODE, 1SS294, CHIP			

Location No.	Part No.	Description
CAPACITORS (MAIN P.C. BOARD)		
C01	20331100	CD, 10PF, 50V, D, CHIP
C02	20331470	CD, 47PF, 50V, J, CHIP
C03	20310041	CD, 0.001MFD, 50V, J
C04	20330010	CD, 10PF, 50V, F, CHIP
C05	20330016	CD, 150PF, 50V, J, CHIP
C06	20341223	CD, 0.022MFD, 50V, Z
C07	20330014	CD, 0.022MFD, 50V, K, CHIP
C08	20312220	CD, 22PF, 50V, J(CH)
C09	20312109	CD, 1PF, 50V, D(CH)
C10	20330011	CD, 82PF, 50V, J, CHIP
C11	20330012	CD, 4PF, 50V, F, CHIP
C12	20312100	CD, 10PF, 50V, D(CH)
C13	20310042	CD, 0.0068MFD, 50V, J
C14	20310041	CD, 0.001MFD, 50V, J
C15	20330017	CD, 390PF, 50V, J, CHIP
C16	20312240	CD, 24PF, 50V, J(CH)
C17	20310041	CD, 0.001MFD, 50V, J
C18	20422221	EL, 220MFD, 4V
C19	20310044	CD, 0.033MFD, 50V, Z
C20	20440025	EL, 4.7MFD, 50V
C21	20330013	CD, 0.001MFD, 50V, K, CHIP
C22	20330013	CD, 0.001MFD, 50V, K, CHIP
C23	20341223	CD, 0.022MFD, 50V, Z
C24	20330014	CD, 0.022MFD, 50V, K, CHIP
C25	20330013	CD, 0.001MFD, 50V, K, CHIP
C26	20310045	CD, 0.068MFD, 50V, J
C27	20310046	CD, 0.082MFD, 50V, J
C28	20310046	CD, 0.082MFD, 50V, J
C29	20330014	CD, 0.022MFD, 50V, K, CHIP
C30	20330014	CD, 0.022MFD, 50V, K, CHIP
C31	20341223	CD, 0.022MFD, 50V, Z
C32	20439109	EL, 1MFD, 50V
C33	20439109	EL, 1MFD, 50V
C34	20439109	EL, 1MFD, 50V
C35	20439109	EL, 1MFD, 50V
C36	20310047	CD, 270PF, 50V, J
		EUR/AUSTR/OTHERS
C36	20311471	CD, 470PF, 50V, J
		USA/CANADA
C37	20310047	CD, 270PF, 50V, J
		EUR/AUSTR/OTHERS
C37	20311471	CD, 470PF, 50V, J
		USA/CANADA
C38	20310052	CD, 0.022MFD, 50V, K, AXIAL
C39	20310049	CD, 47PF, 50V, J(SL), AXIAL
C40	20310048	CD, 22PF, 50V, J(RH), AXIAL
C41	20310050	CD, 0.001MFD, 50V, K, AXIAL
C42	20310052	CD, 0.022MFD, 50V, K, AXIAL
C43	20310051	CD, 0.01MFD, 50V, K, AXIAL
C51	20310043	CD, 0.015MFD, 50V, Z
C52	20310043	CD, 0.015MFD, 50V, Z
C53	20341223	CD, 0.022MFD, 50V, Z
C54	20330014	CD, 0.022MFD, 50V, K, CHIP

Location No.	Part No.	Description
C55	20330015	CD, 0.1MFD, 50V, K, CHIP
C56	20330015	CD, 0.1MFD, 50V, K, CHIP
C57	20470013	TT, 1MFD, 25V
C58	20470013	TT, 1MFD, 25V
C59	20432470	EL, 47MFD, 4V
C60	20439109	EL, 1MFD, 50V
C61	20439109	EL, 1MFD, 50V
C62	20330013	CD, 0.001MFD, 50V, K, CHIP
C63	20330013	CD, 0.001MFD, 50V, K, CHIP
C64	20435100	EL, 10MFD, 16V
C65	20470013	TT, 1MFD, 25V
C66	20433220	EL, 22MFD, 6.3V
C67	20422221	EL, 220MFD, 4V
C68	20422221	EL, 220MFD, 4V
C69	20433220	EL, 22MFD, 6.3V
C70	20470013	TT, 1MFD, 25V
C71	20422221	EL, 220MFD, 4V
C72	20400049	EL, 0.022FD, 5.5V, GOLD CAPA.
TC1	22309301	TRIMMER, 10PF
TC2	22309301	TRIMMER, 10PF

CAPACITORS (DTS P.C. BOARD)

C101	20330014	CD, 0.022MFD, 50V, K, CHIP
C102	20330015	CD, 0.1MFD, 50V, K, CHIP
C103	20330015	CD, 0.1MFD, 50V, K, CHIP
C104	20330015	CD, 0.1MFD, 50V, K, CHIP
C105	20330019	CD, 18PF, 50V, J, CHIP
C106	20330020	CD, 33PF, 50V, J, CHIP
C107	20330014	CD, 0.022MFD, 50V, K, CHIP
C108	20330010	CD, 10PF, 50V, F, CHIP
C109	20330014	CD, 0.022MFD, 50V, K, CHIP
C110	20330014	CD, 0.022MFD, 50V, K, CHIP
C111	20330014	CD, 0.022MFD, 50V, K, CHIP
C112	20330021	CD, 0.0022MFD, 50V, K, CHIP
C113	20330022	CD, 0.01MFD, 50V, K, CHIP
C114	20435100	EL, 10MFD, 16V
C115	20432101	EL, 100MFD, 4V
C116	20432101	EL, 100MFD, 4V
C117	20330018	CD, 56PF, 50V, J, CHIP
C118	20330019	CD, 18PF, 50V, J, CHIP
C119	20330015	CD, 0.1MFD, 50V, K, CHIP

RESISTORS (MAIN P.C. BOARD)

R01	20510158	CF, 100K OHM, 1/8W, J
R02	20510158	CF, 100K OHM, 1/8W, J
R03	20510158	CF, 100K OHM, 1/8W, J
R04	20510158	CF, 100K OHM, 1/8W, J
R05	22543680	CF, 68 OHM, 1/8W, J
R06	20540308	OMF, 100K OHM, 1/8W, J, CHIP
R07	22543223	CF, 22K OHM, 1/8W, J
R08	22543472	CF, 4.7K OHM, 1/8W, J

Location No.	Part No.	Description
R09	20510157	CF, 47K OHM, 1/8W, J EUR/AUSTR/OTHERS
R09	22543273	CF, 27K OHM, 1/8W, J USA/CANADA
R10	20510157	CF, 47K OHM, 1/8W, J EUR/AUSTR/OTHERS
R10	22543273	CF, 27K OHM, 1/8W, J USA/CANADA
R11	20510158	CF, 100K OHM, 1/8W, J
R12	22543102	CF, 1K OHM, 1/8W, J
R13	22543105	CF, 1M OHM, 1/8W, J
R14	22543123	CF, 12K OHM, 1/8W, J
R15	20510157	CF, 47K OHM, 1/8W, J
R16	22543220	CF, 22 OHM, 1/8W, J
R51	22543123	CF, 12K OHM, 1/8W, J
R52	22543123	CF, 12K OHM, 1/8W, J
R53	20510159	CF, 120K OHM, 1/8W, J
R54	20510159	CF, 120K OHM, 1/8W, J
R55	20540309	OMF, 150K OHM, 1/8W, J, CHIP
R56	22543154	CF, 150K OHM, 1/8W, J
R57	20510157	CF, 47K OHM, 1/8W, J
R58	20510157	CF, 47K OHM, 1/8W, J
R59	22543153	CF, 15K OHM, 1/8W, J
R60	20540307	OMF, 15K OHM, 1/8W, J, CHIP
R61	20510161	CF, 180K OHM, 1/8W, J
R62	20510161	CF, 180K OHM, 1/8W, J
R63	22543332	CF, 3.3K OHM, 1/8W, J
R64	20540306	OMF, 3.3K OHM, 1/8W, J, CHIP
R65	20510150	CF, 100 OHM, 1/8W, J
R67	20510148	CF, 2.2 OHM, 1/8W, J
R68	20510148	CF, 2.2 OHM, 1/8W, J
VR1	22616008	VARIABLE, 20K-A OHM X 2 VOLUME

RESISTORS (DTS P.C. BOARD)

R101	20540318	OMF, 1M OHM, 1/8W, J, CHIP
R102	20540312	OMF, 10K OHM, 1/8W, J, CHIP
R103	20540313	OMF, 22K OHM, 1/8W, J, CHIP
R104	20540309	OMF, 150K OHM, 1/8W, J, CHIP
R105	20540316	OMF, 270K OHM, 1/8W, J, CHIP

Location No.	Part No.	Description
R106	20540312	OMF, 10K OHM, 1/8W, J, CHIP
R107	20540310	OMF, 1K OHM, 1/8W, J, CHIP
R108	20540308	OMF, 100K OHM, 1/8W, J, CHIP
R109	20540308	OMF, 100K OHM, 1/8W, J, CHIP
R110	20540308	OMF, 100K OHM, 1/8W, J, CHIP
R111	20540308	OMF, 100K OHM, 1/8W, J, CHIP
R112	20540315	OMF, 47K OHM, 1/8W, J, CHIP
R113	20540319	OMF, 10 OHM, 1/8W, J, CHIP
R114	20540317	OMF, 560K OHM, 1/8W, J, CHIP
R115	20540317	OMF, 560K OHM, 1/8W, J, CHIP
R116	20540308	OMF, 100K OHM, 1/8W, J, CHIP
R117	20540308	OMF, 100K OHM, 1/8W, J, CHIP
R118	20540311	OMF, 2.2K OHM, 1/8W, J, CHIP
R119	20540310	OMF, 1K OHM, 1/8W, J, CHIP
R120	20540308	OMF, 100K OHM, 1/8W, J, CHIP
R121	20540314	OMF, 33K OHM, 1/8W, J, CHIP
R122	20540311	OMF, 2.2K OHM, 1/8W, J, CHIP

ACCESSORIES

AC01	22909350	OWNER'S MANUAL USA
AC01	22909351	OWNER'S MANUAL CANADA
AC01	22909352	OWNER'S MANUAL EUROPE
AC01	22909354	OWNER'S MANUAL AUSTRALIA
AC01	22909355	OWNER'S MANUAL OTHERS
AC02	22152739	HEADPHONE USA/CANADA
AC02	22152780	HEADPHONE, HR-P10-K EUR/AUSTR/OTHERS
AC03	22957628	SHEET, CAUTION USA
AC04	22957916	SHEET, DBP EUROPE
AC05	22810161	EAR PAD SET EUR/AUSTR/OTHERS
AC05	22810162	EAR PAD SET USA/CANADA

TOSHIBA CORPORATION

1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105, JAPAN